Tubos de Acero de México, S.A.
Carr. Mty-Laredo Km 24.2
Apartado Postal 43
(65550) C. de Flores, N.L. Méx.
(52) 81 8305 9600 tel
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Tenaris

CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE
(DIN EN 10204:2004E - ISO 10474 3.1.B)

Numero: Number:	Pagina/Page:
27577	1

Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No: 15528 - 15147	Lista de Empaque: Packing List: 14299	Fecha/Date: 27 de Mayo de 2013
Especificaciones y Grados / Standard or Specification and Steel Grade **Seamless Fittings according to ASTM A 234 WPB-10, NACE MR 01.75-2003** **Conform to ASME II Ed. 2001 ASME SA-234,Grade WPB, NACE MR0103-2003**	Dimensiones y tolerancias / Dimension and tolerances **ASME B 16.9 - 2007**		**Factura/Invoice:** **Bocas / Ends** Biselado / Bevelled ends

DESCRIPCION DE MATERIAL / MATERIAL DESCRIPTION				PRUEBAS MECANICAS / MECHANICAL TEST				PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C				
ART. ITEM	COLADA HEAT CODE	CANTIDAD QUANTITY	DESCRIPCION / DESCRIPTION	ESF. CEDENCIA YIELD STRENGTH (Mpa)	ESF. RUPTURA TENSILE STRENGTH (Mpa)	ELONG. %2"	DUREZA HARDNESS HBW	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	T64199	12	CODO 16 X 45° CED-STD	321	481	36	150					
2	T59835	20	CODO 8 X 45° CED-XS	311	472	37	151					
3	T64153	24	CODO 14 X 90° R.L. CED-STD	309	473	37	145					
4	T65019	5	TEE 12 CED-STD	258	464	37	150					
5	T61865	20	RED. CONC. 8 X 4 CED-STD	324	490	41	155					
6	T65039	30	RED. CONC. 8 X 6 CED-STD	349	480	33	144					
7	T64153	6	CODO 14 X 45° CED-STD	309	473	37	145					
8	T5591	36	CODO 8 X 90° R.L. CED-XS	279	468	37	151					
9	T64154	36	CODO 12 X 90° R.L. CED-STD	329	492	34	148					
10	T65038	5	CODO 10 X 90° R.L. CED-STD	339	488	34	148					
11	T63084	3	CODO 10 X 90° R.L. CED-STD	314	483	36	137					

ANALISIS QUIMICO / CHEMICAL ANALYSIS

PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P./MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	T64199	64199	0.300	0.170	0.670	0.011	0.001	0.300	0.050	0.059	0.019	0.030	0.000	0.000
HF	T59835	59835	0.300	0.170	0.670	0.011	0.001	0.300	0.050	0.076	0.016	0.040	0.000	0.000
HF	T64153	64153	0.310	0.180	0.670	0.014	0.001	0.300	0.060	0.055	0.023	0.030	0.000	0.000
HF	T65019	65019	0.320	0.170	0.780	0.014	0.001	0.270	0.050	0.065	0.028	0.030	0.000	0.000
CF	T61865	61865	0.300	0.170	0.670	0.016	0.001	0.280	0.040	0.053	0.018	0.030	0.000	0.000
CF	T65039	65039	0.300	0.170	0.650	0.012	0.002	0.250	0.050	0.049	0.027	0.030	0.000	0.000
HF	T64153	64153	0.310	0.180	0.670	0.014	0.001	0.300	0.060	0.055	0.023	0.030	0.000	0.000
HF	T5591	5591	0.310	0.170	0.800	0.005	0.001	0.300	0.020	0.031	0.007	0.020	0.000	0.000
HF	T64154	64154	0.310	0.180	0.670	0.014	0.001	0.300	0.040	0.055	0.020	0.030	0.000	0.000
HF	T65038	65038	0.320	0.180	0.660	0.013	0.001	0.270	0.060	0.059	0.039	0.030	0.000	0.000
HF	T63084	63084	0.310	0.180	0.680	0.012	0.001	0.270	0.050	0.050	0.024	0.030	0.000	0.000

Certificamos que los resultados de los Análisis Químicos y Pruebas Mecánicas son verdaderos o una copia fiel de los certificados enviados por el Fabricante y/o el proveedor de Materia Prima (Tubería Sin Costura) conforme ASTM A106 Grado B con Nº:

We certify that result of chemical analysis and mechanical test are true and correct copy of the test certificate issued by the manufacturer and/or suplier Raw material (Seamless Pipe) certs conform to ASTM A106 Grade B Nº:

13018302 12020685 13013906 13029205 12066076 13029591 13013906 13015271 13013279 13027097 12086371

"Este material cumple con los requerimientos especificados en la orden".

"The material of this certificate heat number mentioned above is in compilance with the requirements specified in the order".

Notas:

Formado en caliente a 620°C-980°C, enfriado al aire; Formado en frio normalizado a 940°C max.

Tiempo de permanencia 10'.

Inspección Dimensional: Satisfactoria.

HF: FORMADO EN CALIENTE/HOT FORMED

Notes:

Hot formed fittings in a range from 620°C to 980°C, cooled in still air.

Cold formed nomalized at 940°C max.

Holding time 10'.

Visual dimensional check: Satisfactory

CF: FORMADO EN FRIO/COLD FORMED

Quality Manager/Jefe de Calidad:
ING. WALDO GALLEGOS GALVAN

The Products described herein were produced in accordance with the above referenced specification and are identified with the "R" which is permanently marked on each fitting./ The values of hardness for fittings NPS 2 1/2" and smaller ones obtain from the conversion of hardness Rockwell B to hardness Brinell HBW by means of table WILSON DESK CHART 60.

Los valores de dureza para conexiones de NPS de 2 1/2" y menores, se obtienen de la conversión de dureza Rockwell B a dureza Brinell HBW mediante la tabla WILSON DESK CHART 60.